



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

- SUAREZ, F. G.—Estudio historico sobre los Cañaris, antiguos habitantes de la Provincia del Azuay en la República del Ecuador. Quito, 1878. 4to, 57 pp., 5 tables.
- THOMS, WILLIAM J.—Exceptional longevity: its limits and frequency. A letter to Professor Owens. London, 1880, 8vo. 1s.
- TITECA.—Levée de Milice de 1879; recherches relatives à la taille, au périmètre thoracique et au poids du corps. *Rapport. Arch. Méd. belges*, Bruxelles, 1880, 3s., XVII, 89-130.
- UJFALVY DE MEZŐ KÖVESD, CH.-E. DE.—Expédition scientifique française en Russie, en Sibirie T. III. Les Bachkirs. Paris, 1880, gr. 8vo.
- Viking's Ship, A. (Architect.) *Van Nostrand's Mag.*, Oct.
- VON HÖLDER, H.—Ueber die in Deutschland vorkommenden von Herrn Virchow den Friesen zugesprochenen niederen Schädelformen. *Arch. Anthropol.*, 1880, XII, 315-358.
- WHEELER, J. T.—Peasant life in Bengal. (*Macmillan's*) *Eclectic Mag.*, Oct.
- WHITNEY, W. D.—A Sanskrit Grammar, including both the Classical Language and the older dialects of Veda and Brahmana. Leipzig, Breitkopf & Härtel; London, Trübner & Co. (*The Athenæum*, July 3, 1880; *The Academy*, June 26, July 3.)
- WYROUBOFF, G.—A' propos d'Anthropologie. *Philos. Positive Rev.*, Sept.-Oct.
- ZABAROWSKI, —.—Tertiary Man. *Kansas City Rev.*, Oct.

## GEOLOGY AND PALÆONTOLOGY.

GEOLOGY OF SOUTHEASTERN PENNSYLVANIA.—In a previous number of this magazine, we have noted the salient points of Prof. Frazer's report on the geology of York county, Pa. We have now before us his complete report on that of Lancaster county, and understand that that relating to Chester county is in course of preparation. The maps of York and Lancaster counties accompany the volumes, and that of Chester has already been prepared. Extensive additions to and corrections of the existing map by Rogers have been made by Prof. Frazer, although the map of the First Geological Survey remains intact in its principal features, and maintains itself as the best one of its time published in the country. A comparison of this map with the new one by Prof. Frazer shows the following new points in the latter:

- (1.) The definition of the Eozoic, Chlorite Schist, and Roofing Slate areas, which were confounded or omitted in the old map.
- (2.) The connection between the Chester and Pequea Valley areas of the Lancaster Limestone, previously represented as distinct.
- (3.) The discrimination of several tracts of the Eozoic within the territory of the Chickis quartzite.
- (4.) The discovery of a trap dyke twenty miles in length, traversing the Eozoic and Siluro-Cambrian beds from N. E. to S. W.
- (5.) The correct determinations of the trap dykes of the Jura-Trias region.

The report on mining industries and resources is very full, occupying nearly half the volume. The report on the Gap nickel mine of Bart township will attract attention. This industry, built up by the energy and perseverance of Joseph Wharton, of Philadelphia, has assumed large proportions, the production of nickel being in excess of the consumption in the United States, leaving

a surplus for export. Prof. Frazer shows that the metal is found chiefly as Millerite, encrusting masses of hornblende, which lie in the Eozoic gneiss.

A number of excellent engravings illustrate Prof. Frazer's report. Of the accompanying sections that exposed on the east bank of the Susquehanna river is the most extensive and instructive. As published, it represents an extensive anticlinal near the mouth of Tockuan creek, which is an important key to the relations of the rocks to the north and south of it. We would have been glad to have seen on this chart several other explanations of rock structure which appeared on the section as originally prepared by Prof. Frazer, but which were unfortunately omitted in publication. Many of the observed dips have also been erased, and figures pointing into the air substituted by the direction of the survey. The merits of this change are not obvious, since it renders incomprehensible what was previously clear to the eye.

ALLEGED CHANGES IN THE RELATIVE ELEVATION OF LAND AND SEA.—The view that the north-eastern coast of North America is slowly rising, and Professor Shaler's estimate of the rate as being probably over a foot a century, and perhaps as much as three feet, has been negatived by Mr. Henry Mitchell, according to the *American Journal of Science and Arts*, who states in the Coast Survey Report for 1877, that the rocks upon our coast, long notorious as dangerous to navigation, have not risen since they were first discovered, while the salt marshes are still as in the time of the early explorers at ordinary high-water level. He claims that no tilt in either direction has taken place in the Gulf of Maine. But east of long.  $64^{\circ} 13'$ , "and especially in Newfoundland, great changes present themselves in the comparison of charts, the depths appearing to be at some points less and at other points greater now than formerly."

## CATALOGUE OF VERTEBRATA OF THE PERMIAN FORMATION OF THE UNITED STATES.

### PISCES.

#### CROSSOPTERYGIA.

ECTOSTEORHACHIS Cope; Pal. Bull., No. 32, 1880, p. 19.

1. *E. nitidus* Cope; l. c. Texas.

#### DIPNOI.

CTENODUS Agass.

2. *C. fossatus* Cope; Proc. Amer. Phil. Soc. 1877, p. 54. Eastern Illinois.

3. *C. gurlieianus* Cope; l. c., p. 55. Eastern Illinois.

4. *C. periprion* Cope; Proc. Amer. Phil. Soc. 1878, p. 527. Texas.

5. *C. porrectus* Cope; l. c. Texas.

6. *C. dialophus* Cope; l. c. p. 528. Texas.

7. *C. pusillus* Cope; Proc. Amer. Phil. Soc., 1877, p. 191. Eastern Illinois.

PTYONODUS Cope; Proceed. Amer. Philos. Soc. 1877, p. 192.

8. *P. vinslovii* Cope; Proc. Acad. Philada. 1876, p. 410. Eastern Illinois.

9. *P. paucicristatus* Cope; Proc. Amer. Phil. Soc. 1877, p. 54. Eastern Illinois.

## SELACHII.

## JANASSA Münt.

10. *J. gurlieana* Cope; Proc. Amer. Phil. Soc. 1877, p. 191. Eastern Illinois.
11. *J. strigilina* Cope; *S. linguæformis* Cope; l. c. p. 53, not of older authors. Eastern Illinois.
12. *J. ordiana* Cope; Texas.

## DIPLODUS Agass.

13. *D. ? compressus* Newb. Eastern Illinois.
14. *D. sp.* Texas.

## ORTHACANTHUS Agass.

15. *O. gracilis* Newberry. Eastern Illinois.
16. *O. quadriseriatus* Cope; l. c. p. 192. Eastern Illinois.

## BATRACHIA.

## STEGOCEPHALI.

GANOCEPHALA Owen, Cope (emend.) Amer. Natur. 1880, p. 60.

ERYOPS Cope; Proc. Amer. Phil. Soc. 1877, p. 188.

17. *E. megacephalus* Cope; l. c. Texas.

TRIMERORHACHIS Cope; Proc. Amer. Phil. Soc. 1878, p. 524.

18. *T. insignis* Cope; l. c. Texas.

ZATRACHYS Cope; l. c. p. 523.

19. *Z. serratus* Cope; l. c. Texas.

PARIOXYS Cope; l. c. p. 521.

20. *P. ferricolus* Cope; l. c. Texas.

PANTYIUS Cope; Bull. U. S. Geol. Surv. Terr. 1881 (80).

21. *P. cordatus* Cope; l. c. Texas.

EMBOLOMERA Cope, American Naturalist, 1880, p. 510.

CRICOTUS Cope; Proceed. Acad. Phila. 1876, p. 405.

22. *C. gibsoni* Cope; Proc. Amer. Phil. Soc. 1877, p. 185. Eastern Illinois.

23. *C. heteroclitus* Cope; Proc. Acad. Philada. 1876, p. 405. Eastern Illinois; Texas.

## REPTILIA.

THEROMORPHA Cope; American Naturalist, 1878, p. 829.

PELYCOSAURIA Cope; l. c.

*Diplocaulidæ.*

DIPLOCAULUS Cope; Proc. Amer. Phil. Soc. 1877, p. 187.

24. *D. salamandroides* Cope; l. c. Eastern Illinois.

*Clepsydropidæ.*

PARIOTICHUS Cope; Proc. Amer. Phil. Soc. 1878, p. 508.

25. *P. brachyops* Cope; l. c. Texas.

ECTOCYNODON Cope; l. c.

26. *E. ordinatus* Cope; l. c. Texas.

ARCHÆOBELUS Cope; Proc. Amer. Phil. Soc. 1877, p. 192.

27. *A. vellicatus* Cope; l. c. Eastern Illinois.

CLEPSYDROPS Cope; Proc. Acad. Philada. 1876, p. 404.

28. *C. collettii* Cope; l. c. p. 407. Eastern Illinois.

29. *C. vinslovii* Cope; Proc. Amer. Phil. Soc. 1877, p. 62. Eastern Illinois.

30. *C. pedunculatus* Cope; l. c. p. 63. Eastern Illinois.

31. *C. natalis* Cope; Proc. Amer. Phil. Soc. 1878, p. 509. Texas.

DIMETRODON Cope; Proc. Amer. Phil. Soc. 1878, p. 512.

32. *D. incisivus* Cope; l. c. Texas.

33. *D. rectiformis* Cope; l. c. p. 514. Texas.

34. *D. biradicatus* Cope; Bull. U. S. Geol. Surv. Terr. 1880 (81).

35. *D. gigas* Cope; l. c. p. 515. Texas.

36. *D. cruciger* Cope; Amer. Natur. 1878, p. 830. Texas.

THEROPIEURA Cope; Proc. Amer. Phil. Soc. 1878, p. 519.

37. *T. retroversa* Cope; l. c. Texas.

38. *T. uniformis* Cope; l. c. Texas.

39. *T. triangulata* Cope; l. c. p. 520. Texas.  
 40. *T. obtusidens* Cope; Pal. Bull. No. 32, 1880, p. 4. Texas.  
 METARMOSAURUS Cope; Proc. Amer. Phil. Soc. 1878, p. 516.  
 41. *M. fossatus* Cope; l. c. Texas.  
 EMBOLOPHORUS Cope; l. c. p. 518.  
 42. *E. fritillus* Cope; l. c. Texas.  
 LYSOROPHUS Cope; Proc. Amer. Phil. Soc. 1877, p. 187.  
 43. *L. tricarinatus* Cope; l. c. Eastern Illinois.

*Bolosauridae.*

- BOLOSAURUS Cope; Proc. Amer. Phil. Soc. 1878, p. 506.  
 44. *B. striatus* Cope; l. c. Texas.

*Diadectidae* Cope; Pal. Bull. No. 32, 1880, p. 8.

- DIADECTES Cope; Proc. Amer. Phil. Soc. 1878, p. 505.  
 45. *D. sideropelicus* Cope; l. c. Texas.  
 46. *D. phaseolinus* Cope; Pal. Bull. No. 32, 1880, p. 9. Texas.  
 EMPEDOCLES Cope; Proc. Amer. Phil. Soc. 1878, p. 516.  
 47. *E. alatus* Cope; l. c. Texas.  
 48. *E. latibuccatus* Cope; l. c. Texas.  
 49. *E. molaris* Cope; Pal. Bull. No. 32, 1880, p. 10. Texas.  
 HELODECTES Cope; Pal. Bull. 11, No. 32, p. 11.  
 50. *H. paridens* Cope; l. c. Texas.  
 51. *H. isaaci* Cope; l. c. p. 12. Texas.

## SYNOPSIS.

PISCES.....			15
<i>Crossopterygia</i> .....		1	
<i>Dipnoi</i> .....		8	
<i>Selachii</i> .....		7	
BATRACHIA.....			7
<i>Stegocephali</i> .....		7	
<i>Ganocephala</i> .....	5		
<i>Embolomera</i> .....	2		
REPTILIA.....			28
<i>Theromorpha</i> .....		28	
<i>Pelycosauria</i> .....	28		
Total number of species.....			51

—E. D. Cope.

GEOLOGICAL NEWS.—Professor Gaudry has recently obtained from the Permian of Igornay in Central France, the bones of a Theromorphous reptile of considerable size. He regards it as an ally of the carnivorous forms which have been discovered in Texas, Russia, etc., and names it *Stereorhachis dominans*.—Professor Cope describes in the current number of Hayden's *Bulletin* a new carnivorous saurian from the Permian of Texas, in which the roots of some of the teeth are so deeply grooved as to be almost double. He names it *Dimetrodon biradicatus*.—The deposit of chloride and bromide of silver at Leadville, Colorado, proves to be more extensive east of the city than has been supposed. Strikes of great richness have been made in the Denver City, near the R. E. Lee; the Scooper, the Leavenworth and the Sovereign, the latter nearly a mile east of the Lee.—M. Daniel de Cortazar of the Geological Survey of Spain, has examined the geology of the Province of Toledo, and has published a geological map. The river Tagus, which traverses the province

from east to west, flows through a wide band of diluvium, which is bordered on each side by other formations. These are, to the east, miocene and eocene; west of this, granite and gneiss. To the south there are extensive areas of silurian and cretaceous. The map is a handsome piece of engraving, but is on a small scale.

#### GEOGRAPHY AND TRAVELS.<sup>1</sup>

THE EAST CENTRAL AFRICAN EXPEDITION OF THE ROYAL GEOGRAPHICAL SOCIETY.—At the meeting of the Royal Geographical Society, held November 8, 1880, Mr. Joseph Thomson, the leader of this expedition, read an account of his explorations including many previous details not previously known.

The lofty plateau extending round the northern and eastern sides of Lake Nyassa and reaching half way to Tanganyika rises from 6000 to 9000 feet, and is so cut up by denudation as to appear like a series of mountains. "It consists to the north and west of metamorphic clay slates, with here and there felspathic rocks intruding, while immediately round Nyassa the rocks are purely volcanic porphyrites and tuffs. The difference in the external surface of this plateau has determined to a very marked extent the surface outlines produced by denudation. Thus the mountains of clay slate are distinguished by rounded grassy forms, generally smooth and uncut, uniform in shape and color, and by no means picturesque. Pass from these to the volcanic rocks, and we observe at once a marked change. We have sharp jagged peaks, precipitous rocky sides, notched and cut in the most irregular and striking fashion, as becomes mountains formed of such diverse materials as compact lava beds and loose tuffs and agglomerates. Add to these features huge yawning gorges and great precipices where vegetation in vain attempts to grow, and some notion of this plateau may be formed."

On this high tract of land were found most miserable and degraded types of the Negro race. "These people have dark, sooty skins, prognathous jaws and thick lips, with small heads and shrunk-up withered bodies which speak of an existence of the most miserable character. They go, as a rule, perfectly naked, and live in conical huts seven feet high and five or six feet in diameter, crawling in and out through a hole." "It was found almost impossible to communicate with them, as they seemed to be entirely devoid of any abstract ideas, and appeared to be completely shut off from all knowledge and communication with the outside world." "Mr. Thomson," remarks the *Academy*, "seems to have formed the idea that these tribes are in their present condition from having remained absolutely isolated; but others may incline to the opinion that it is a case of gradual degeneration."

The commercial importance of this portion of Central Africa is

<sup>1</sup> Edited by ELLIS H. YARNALL, Philadelphia.